

$n = 0$ or >1 ;

R = organic or organometallic complex moiety including oligomer and polymer.

E.g.,

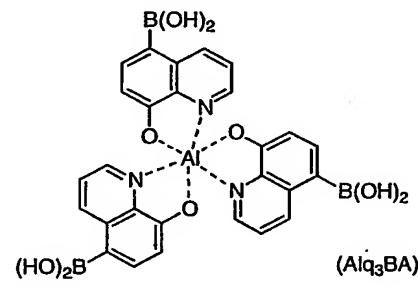
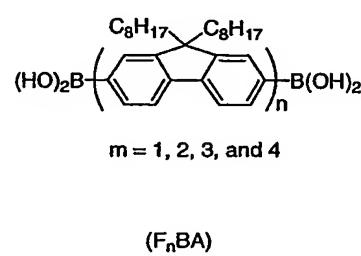
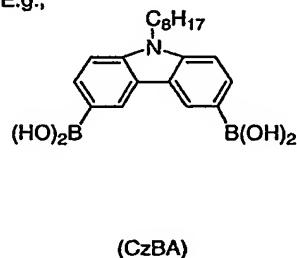


Fig. 1

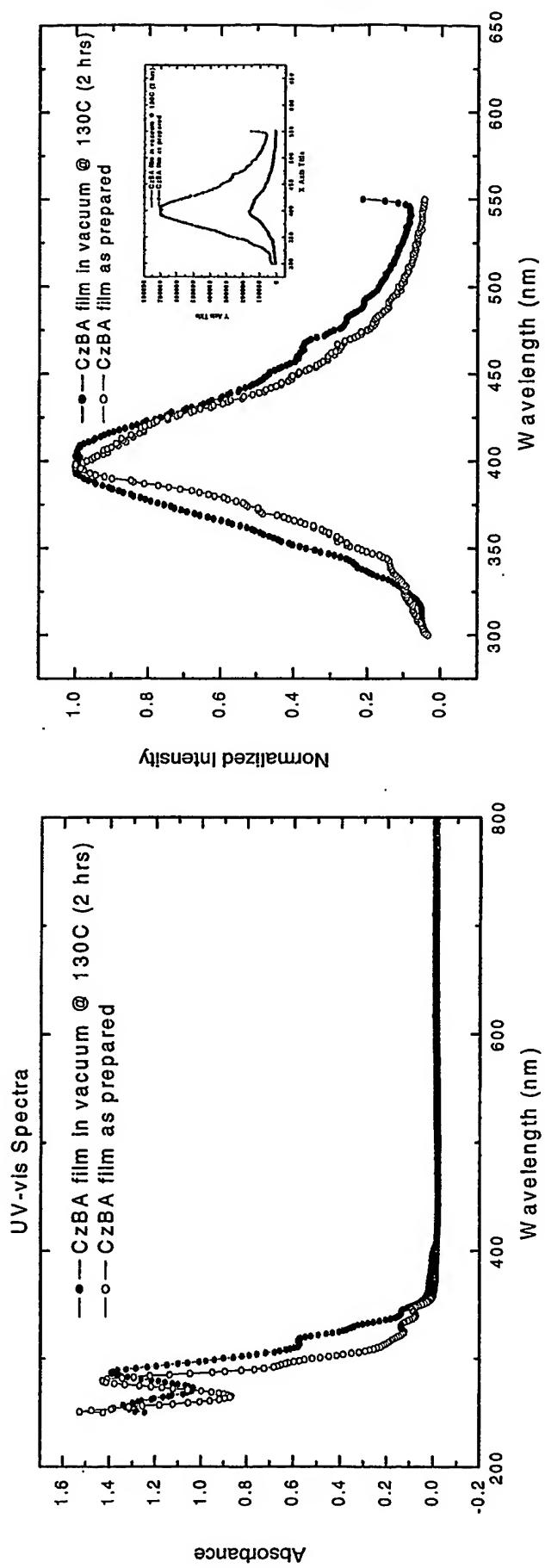


Fig. 2

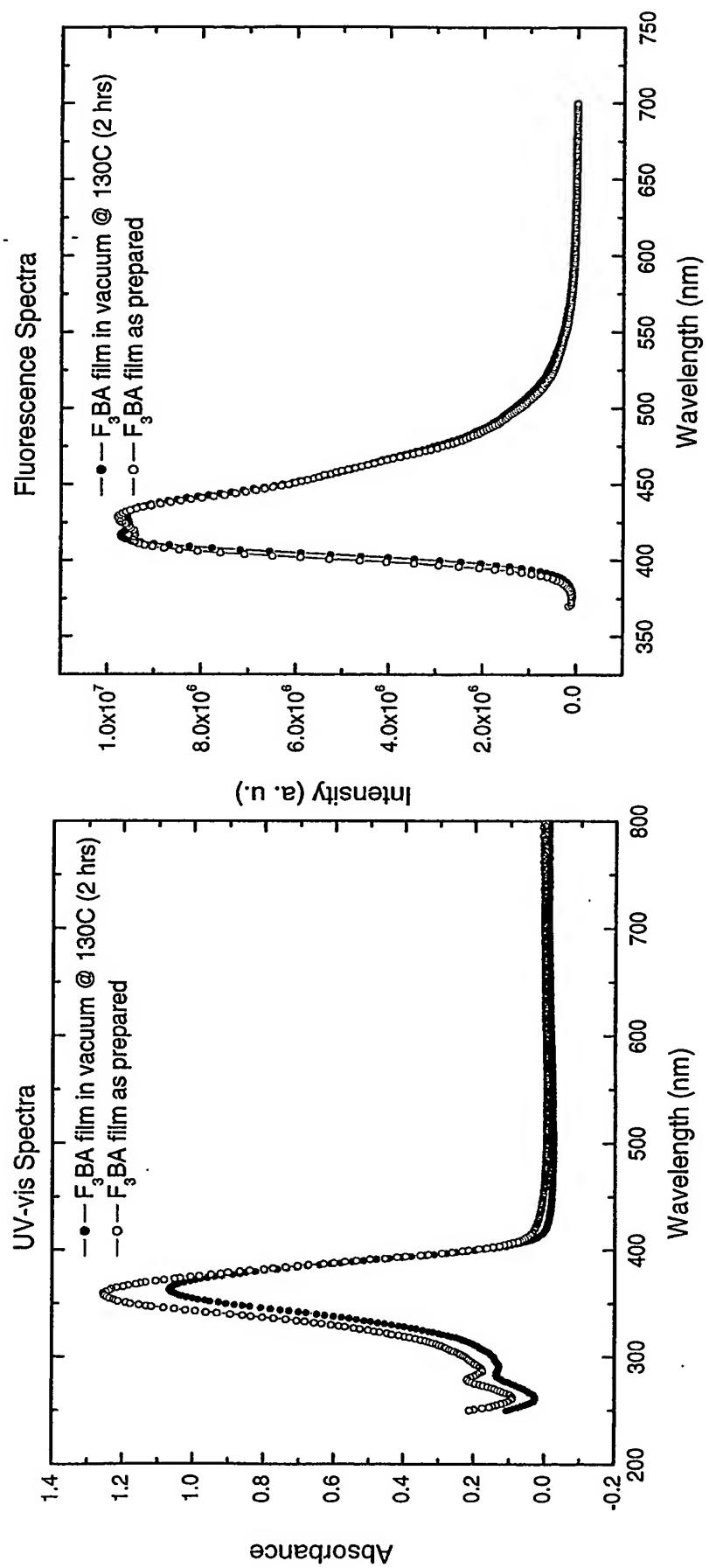


Fig. 3

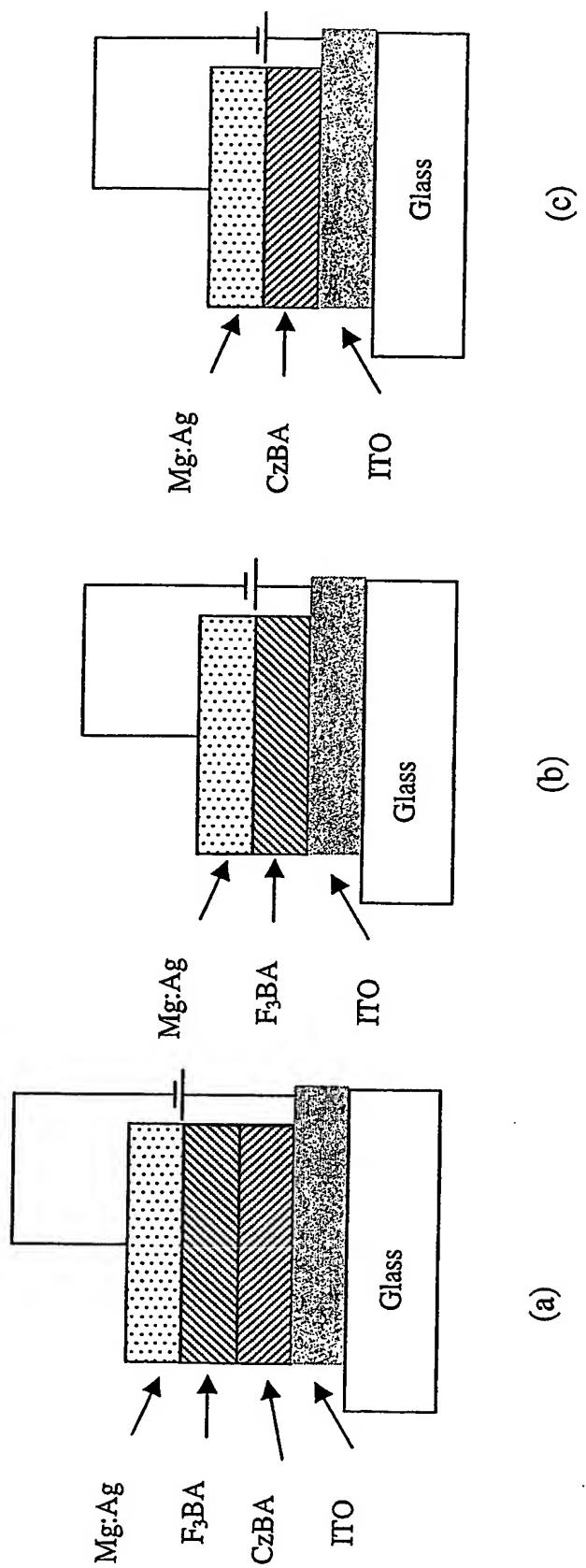


Fig. 4

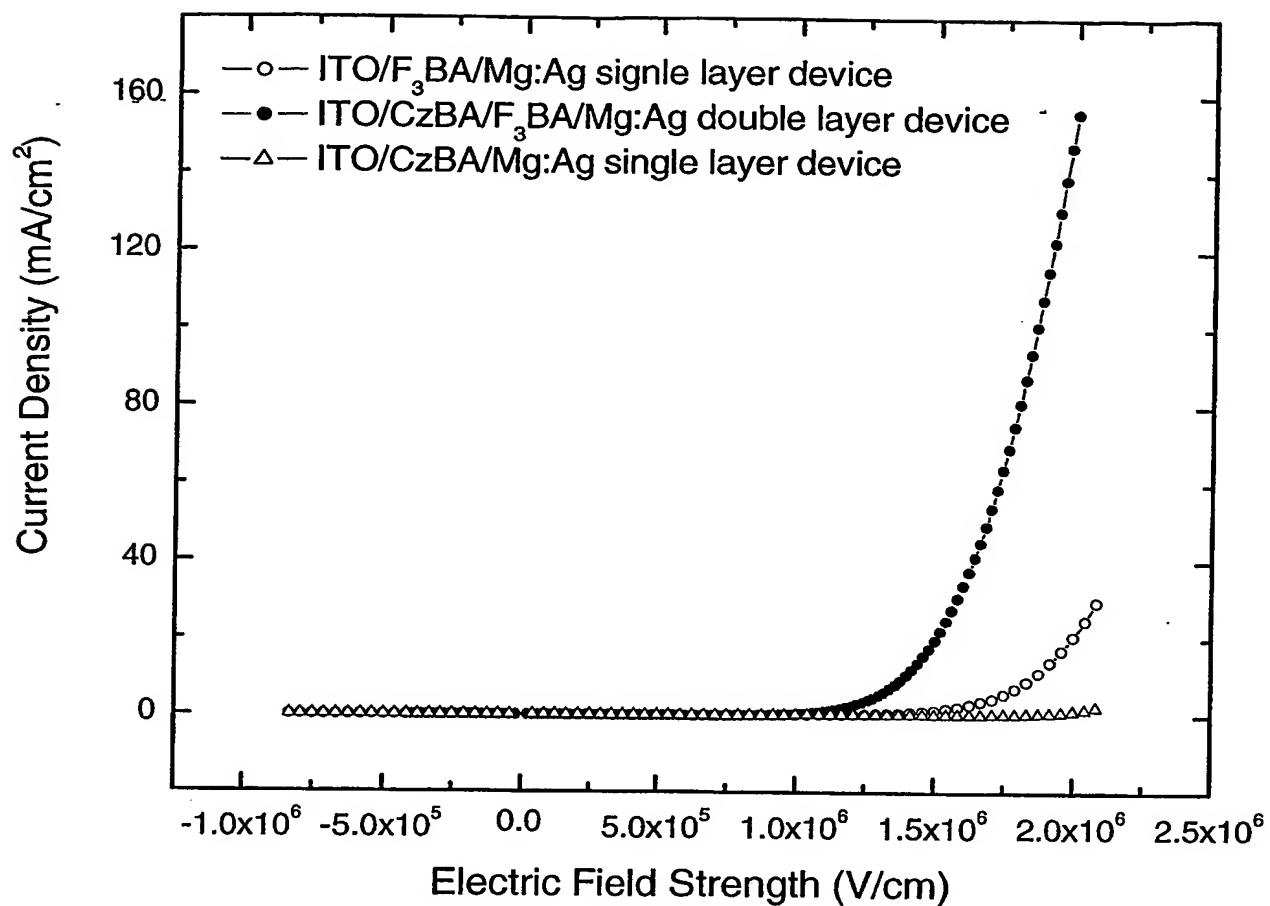


Fig. 5

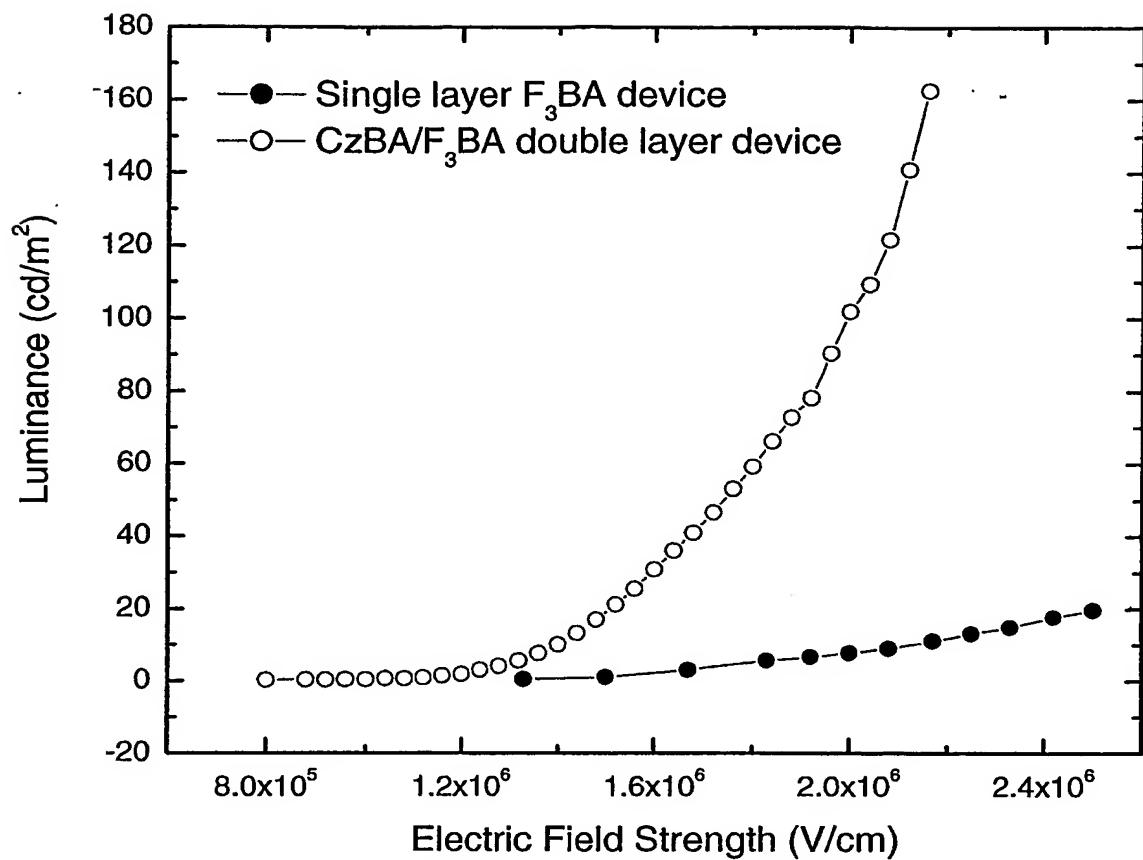


Fig. 6

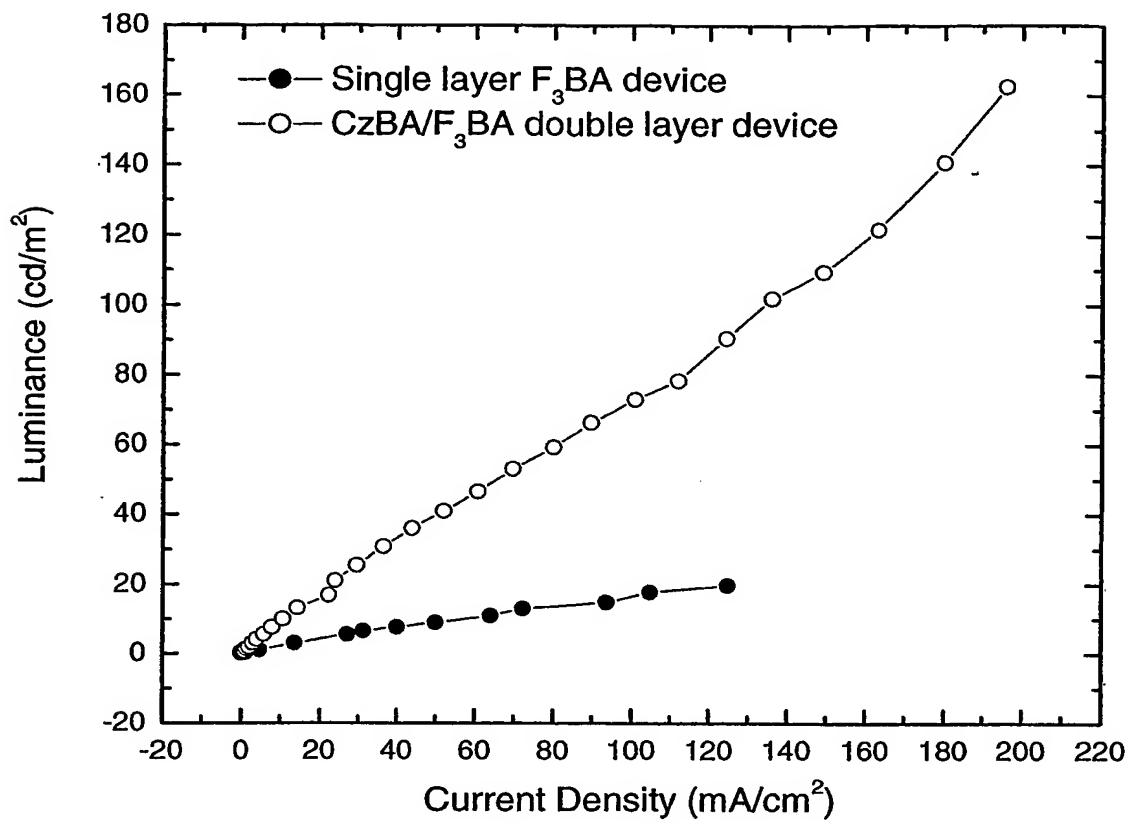


Fig. 7

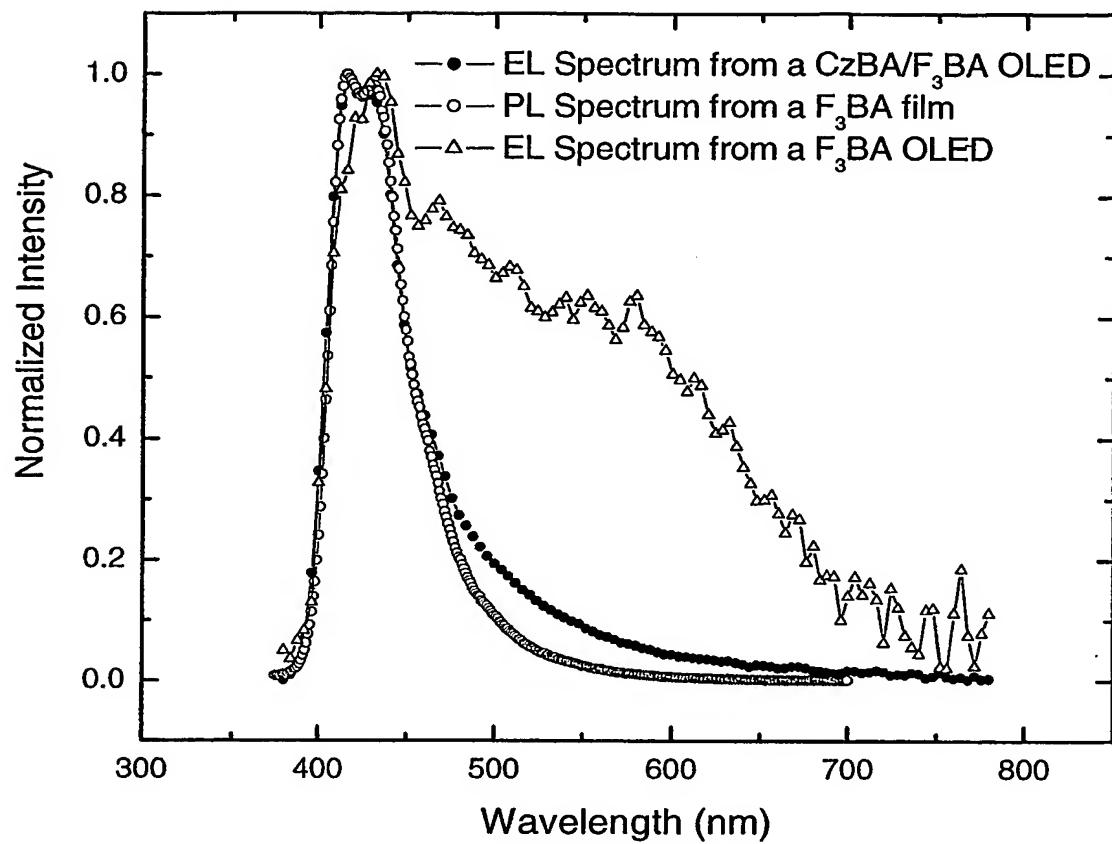


Fig. 8

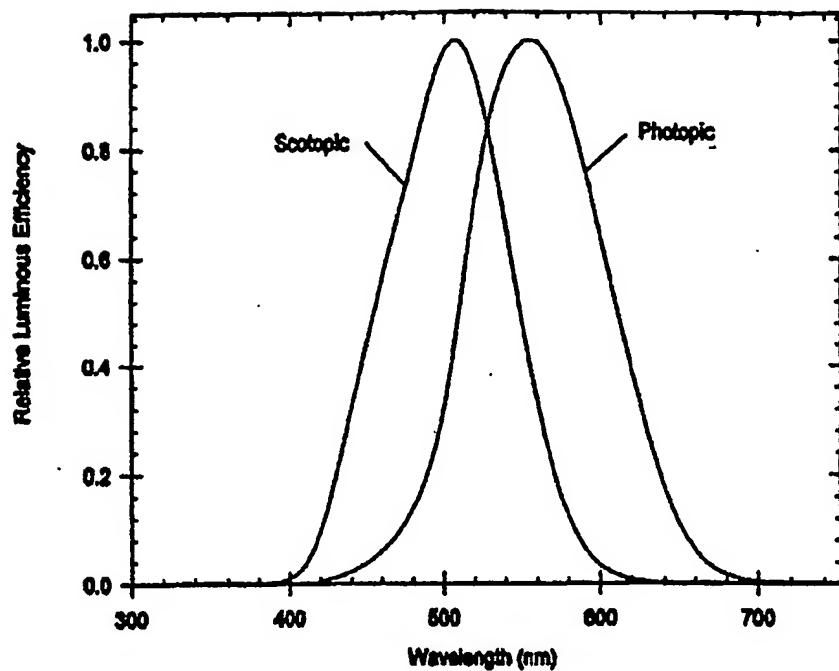
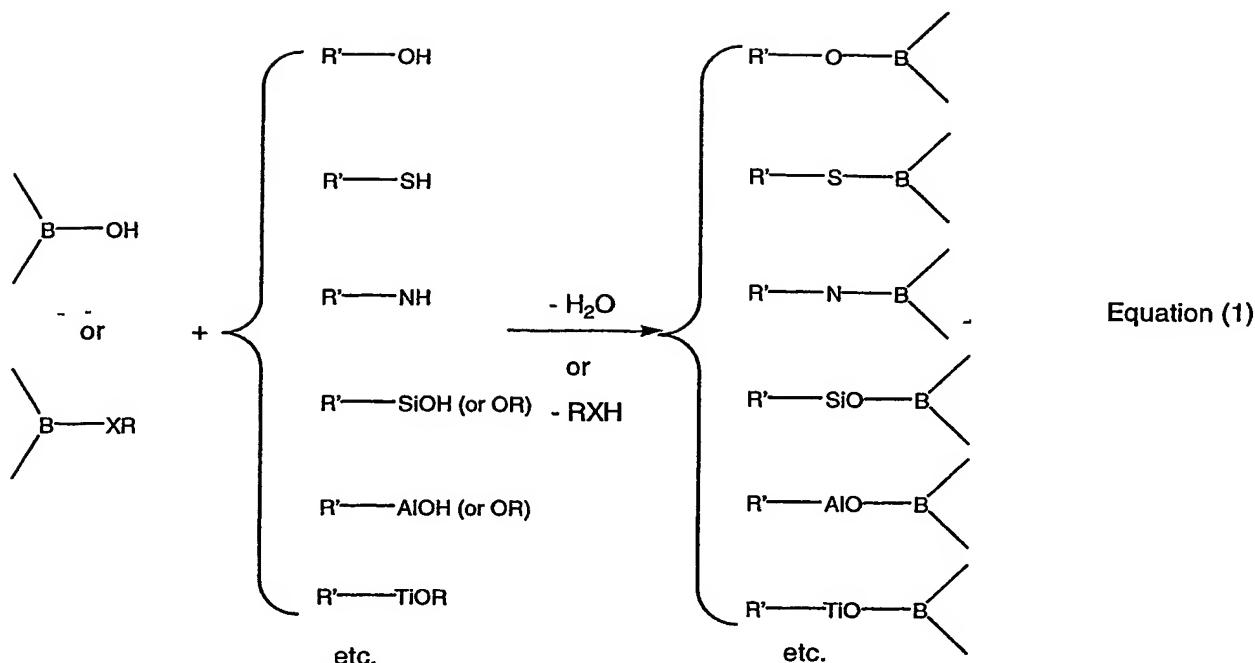
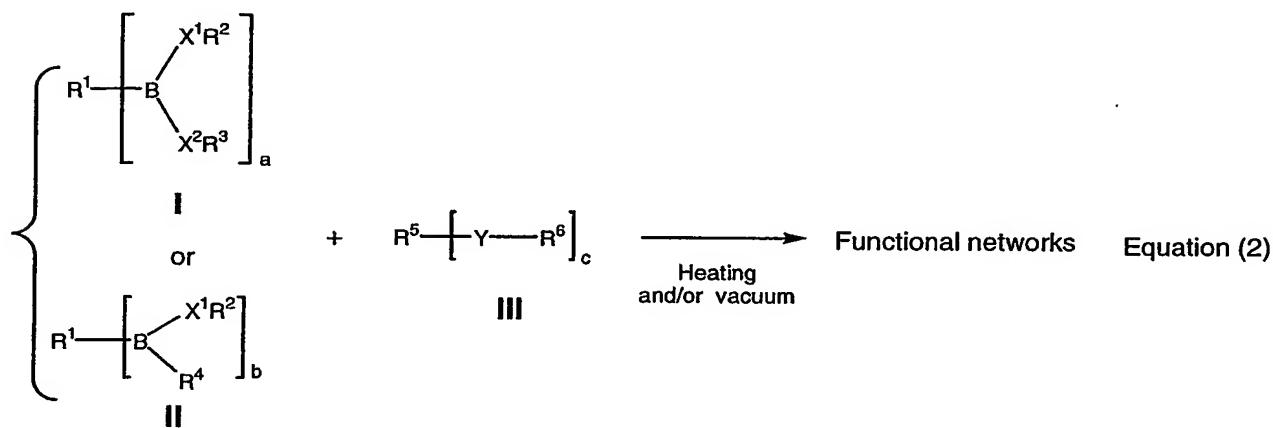


Fig. 9



wherein, $\text{X} = \text{O}, \text{S}, \text{N}$; R and $\text{R}' = \text{alkyl, aryl, or any other organic and inorganic structures or groups}$.



wherein,

R^1, R^4 , and $\text{R}^5 = \text{alkyl, aryl, or other groups, either organic or inorganic, but at least one of them contains functionality; they can be of small molecular weights or high molecular weights}$.

$\text{R}^2, \text{R}^3, \text{R}^6 = \text{H, alkyl, aryl, they may be same or different, but at least one of them is H}$.

$\text{X}^1, \text{X}^2 = \text{O, S, or N, they may be same or different}$.

$\text{Y} = \text{O, S, N (or NH), SiO, AlO, TiO, etc.}$

$\text{a, b, c are equal to or larger than one, but at least either a (or b) or c is larger than one}$.

Fig. 10

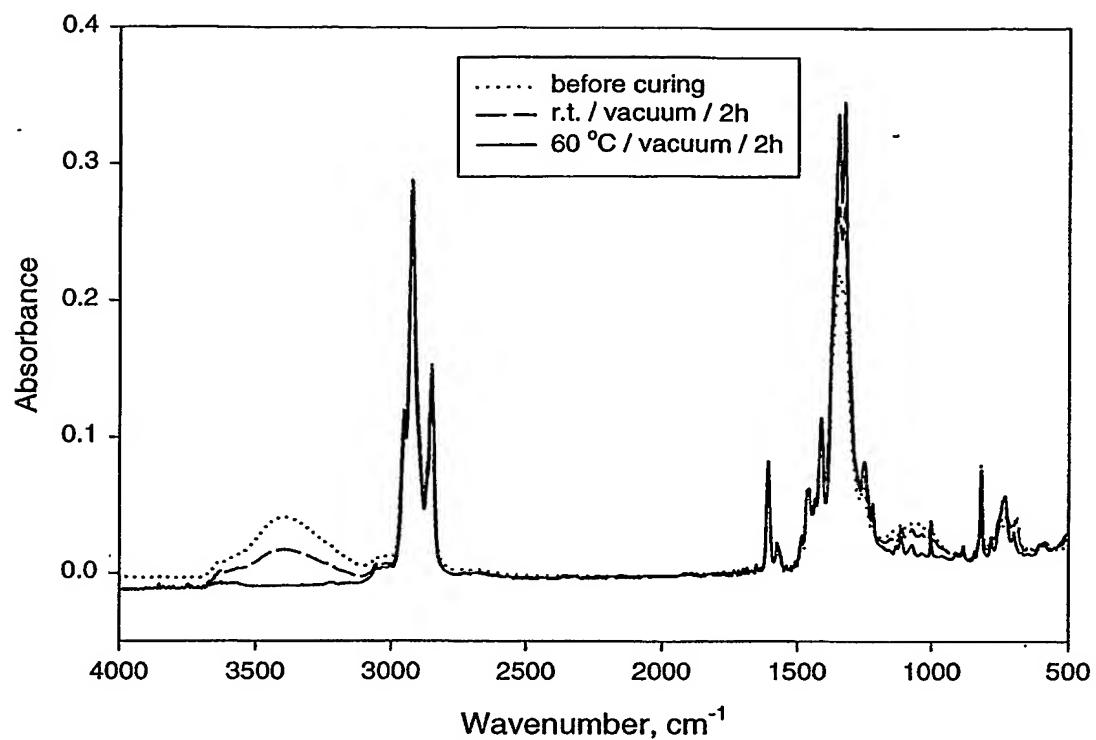


Fig. 11

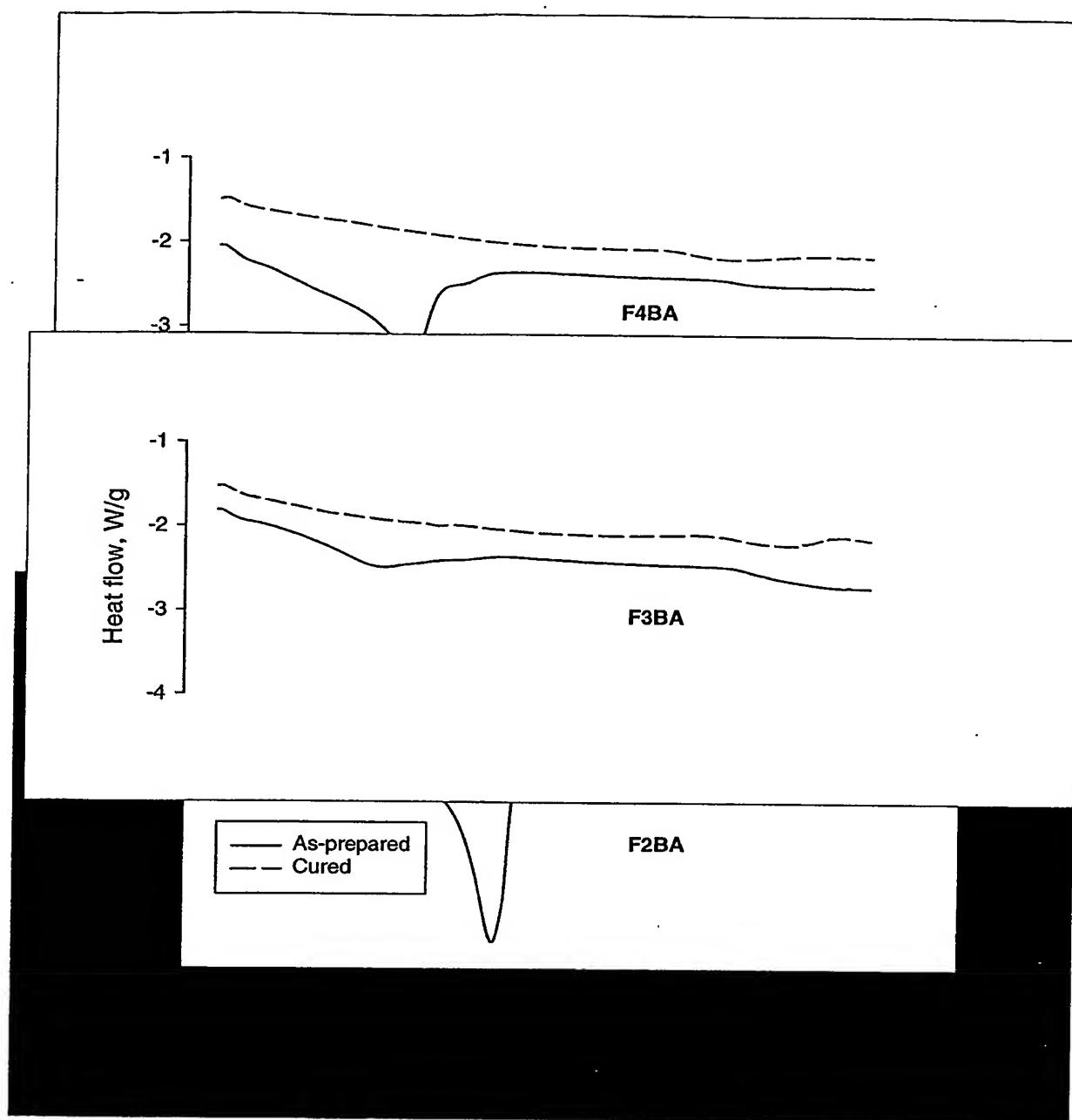


Fig. 12

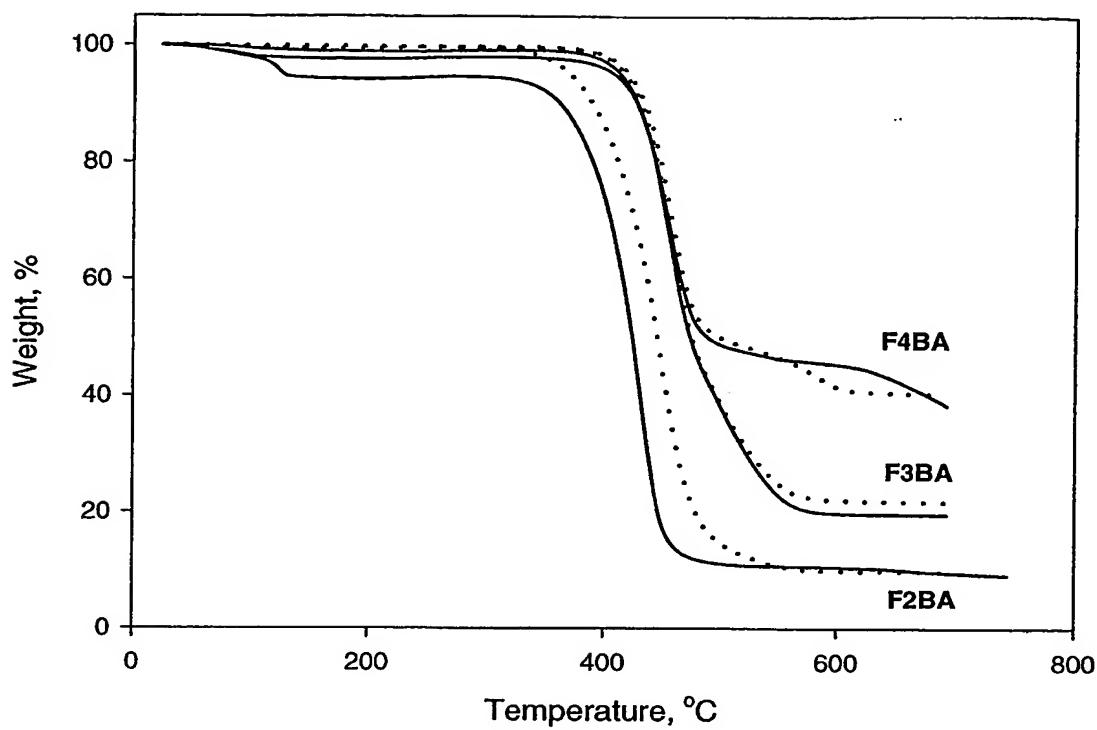


Fig. 13

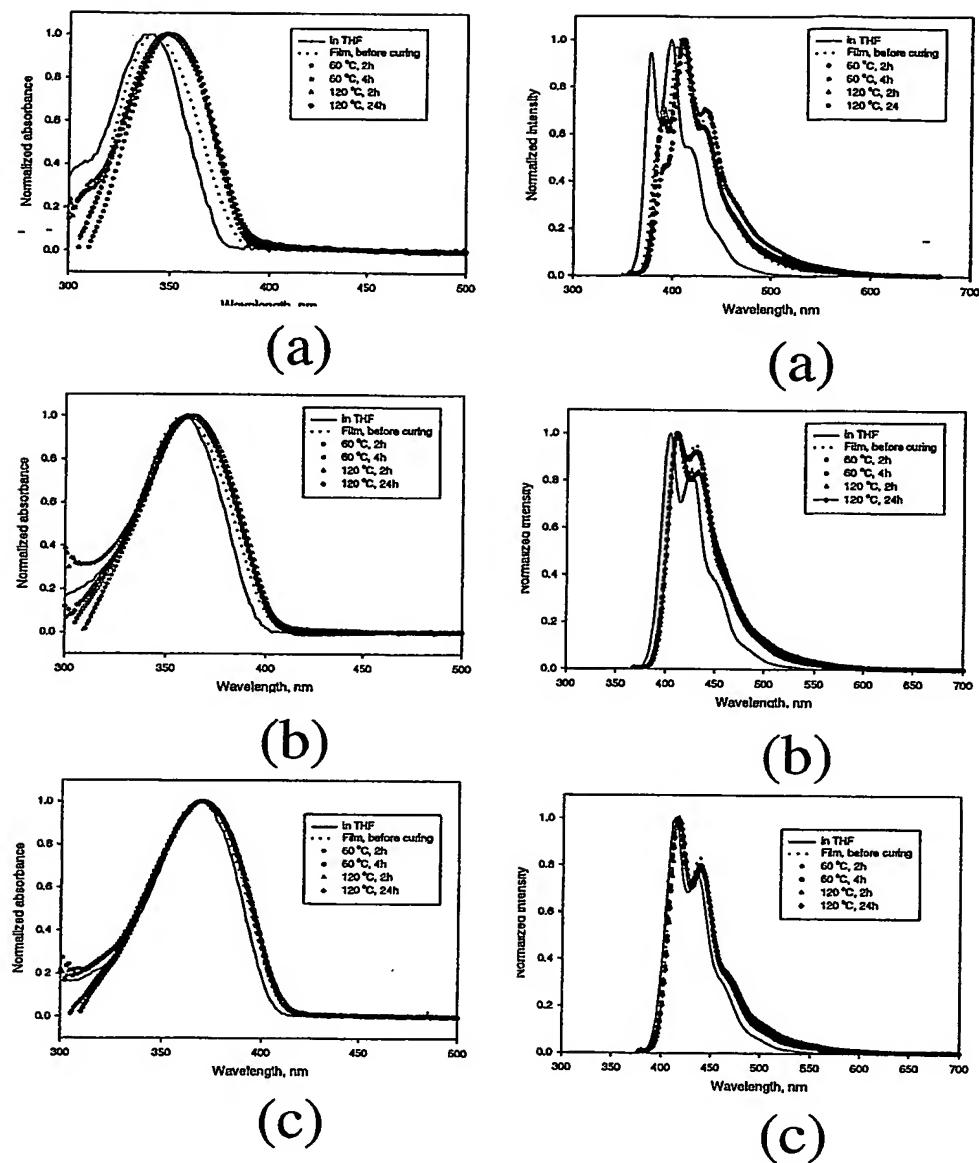


Fig. 14

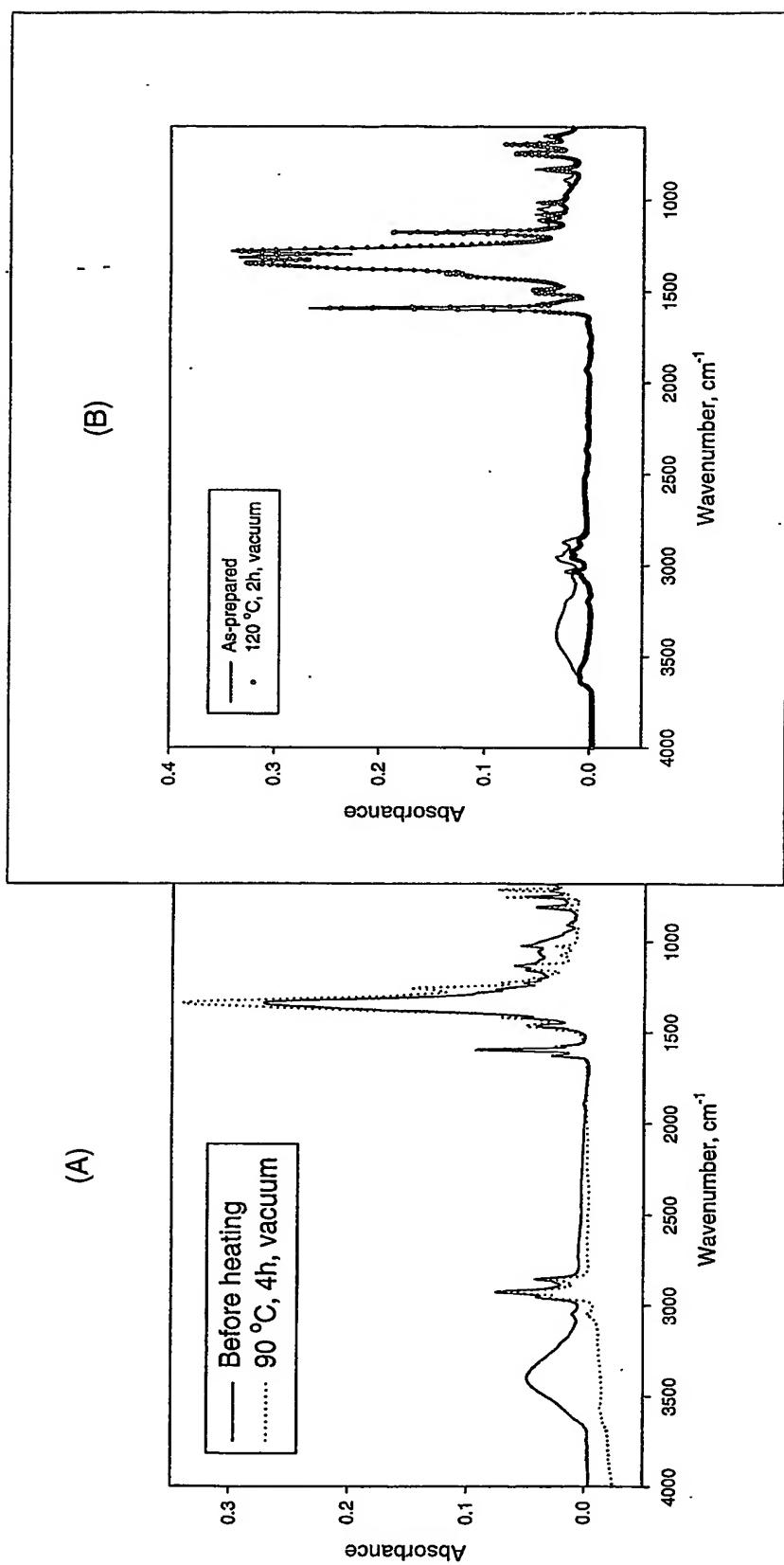


Fig. 15

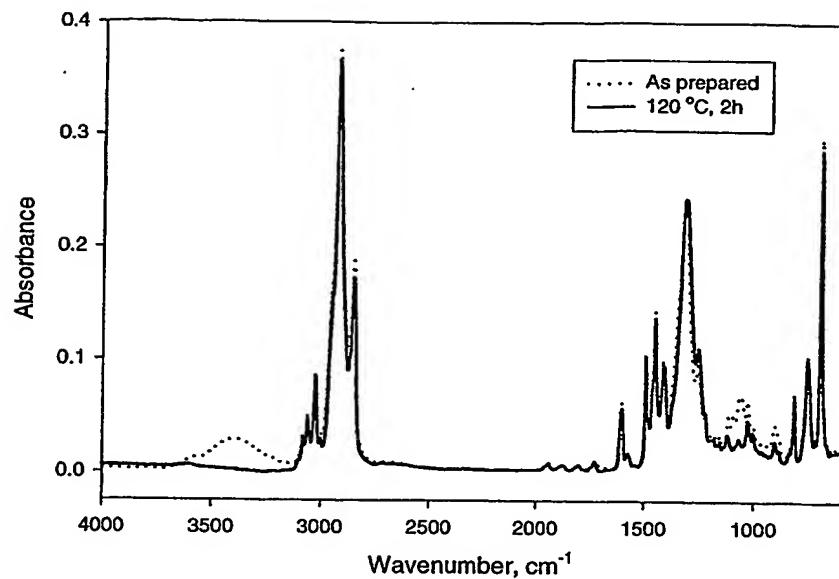


Fig. 16

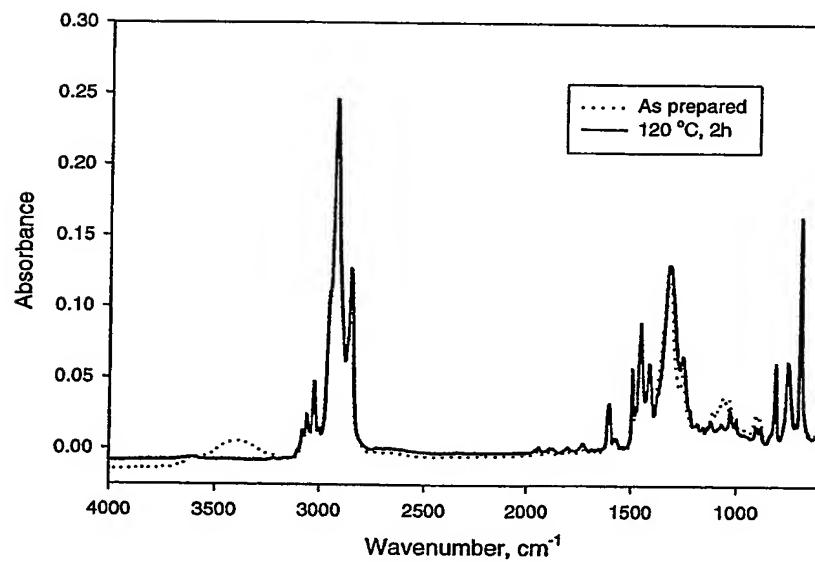


Fig. 17

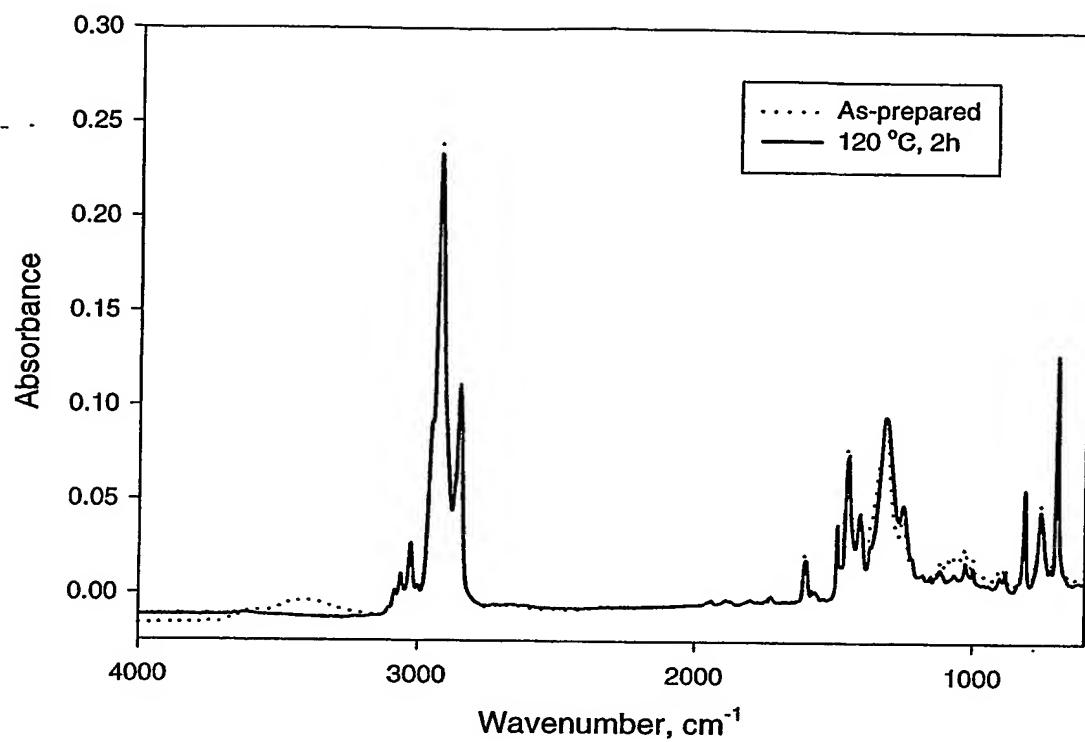


Fig. 18

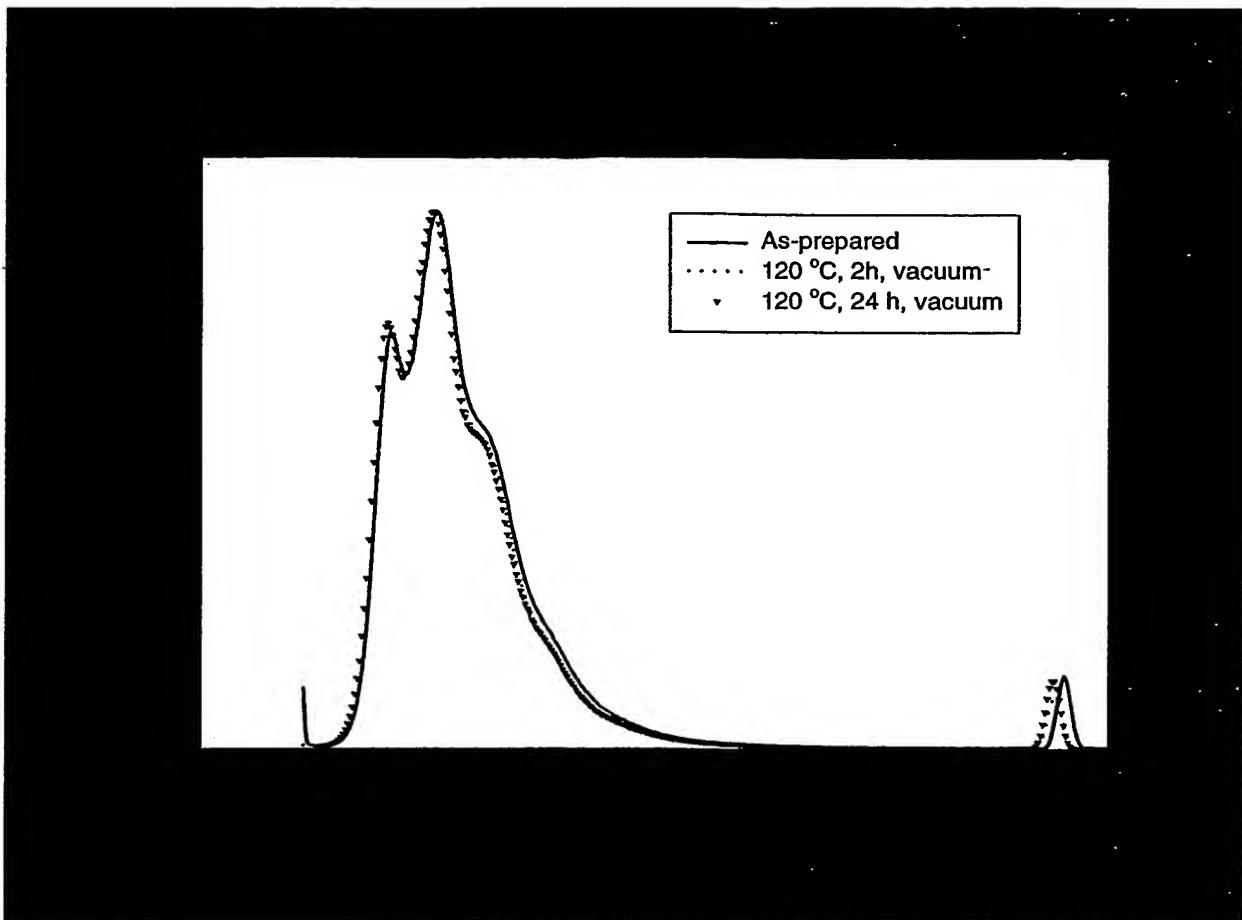


Fig. 19

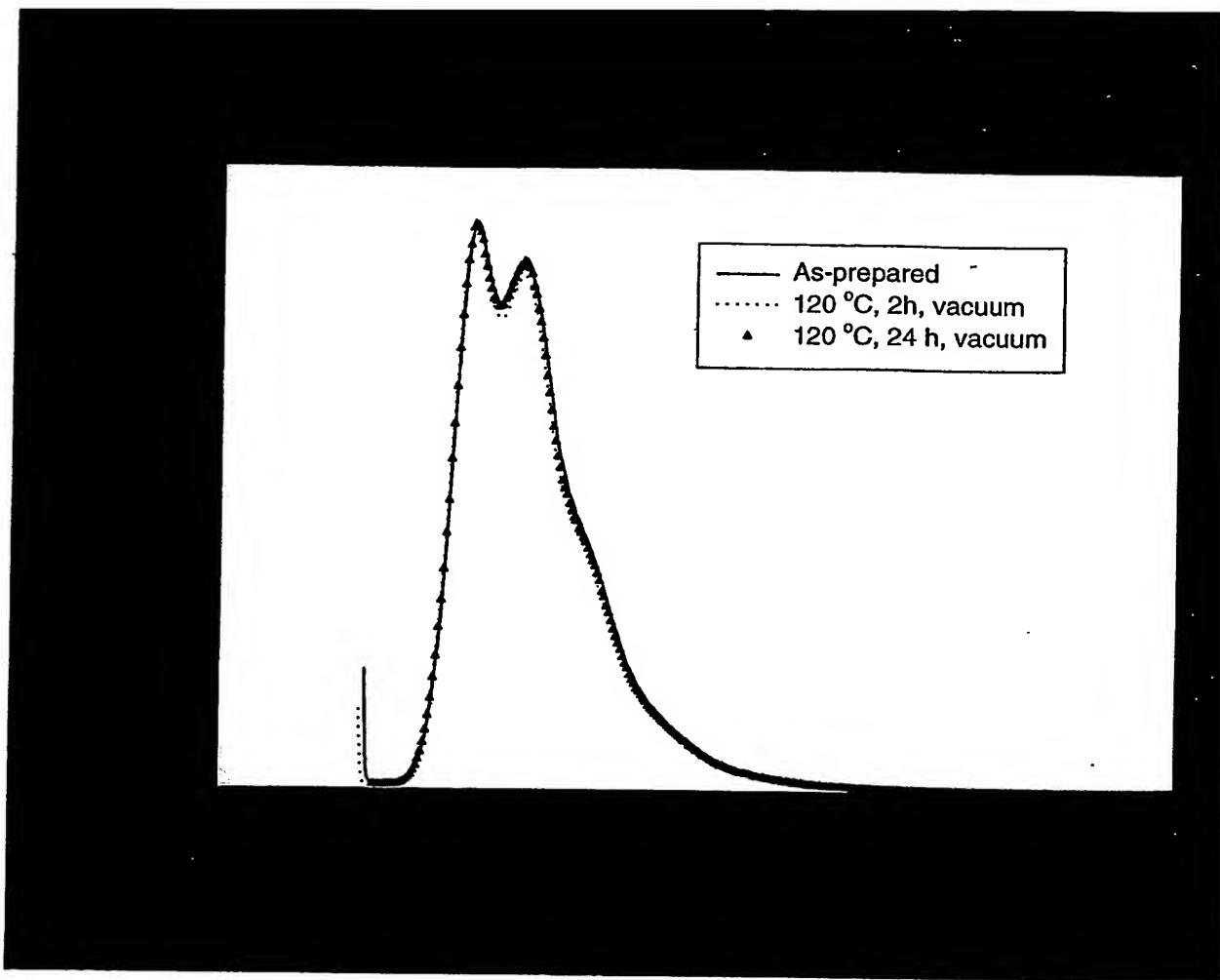


Fig. 20

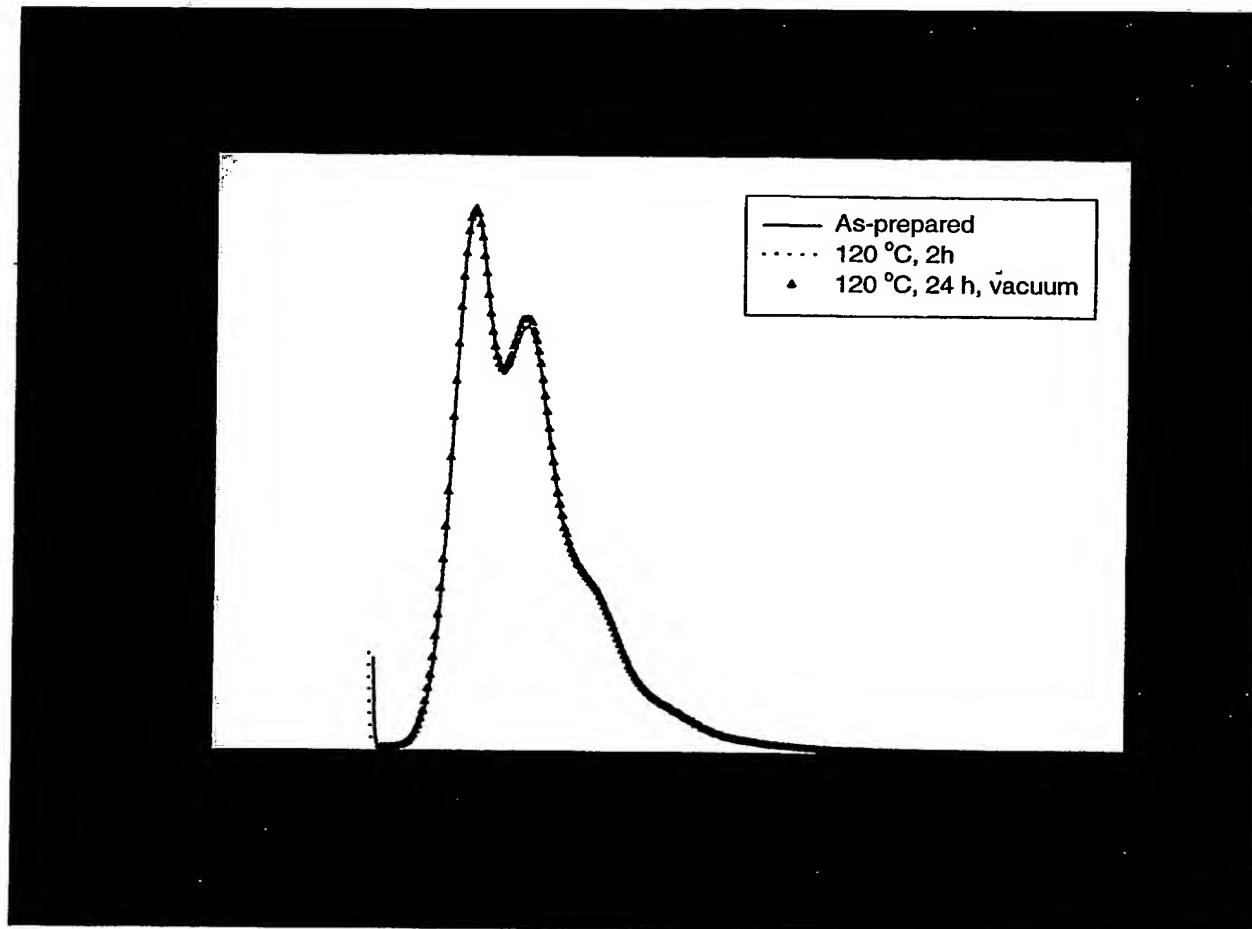


Fig. 21

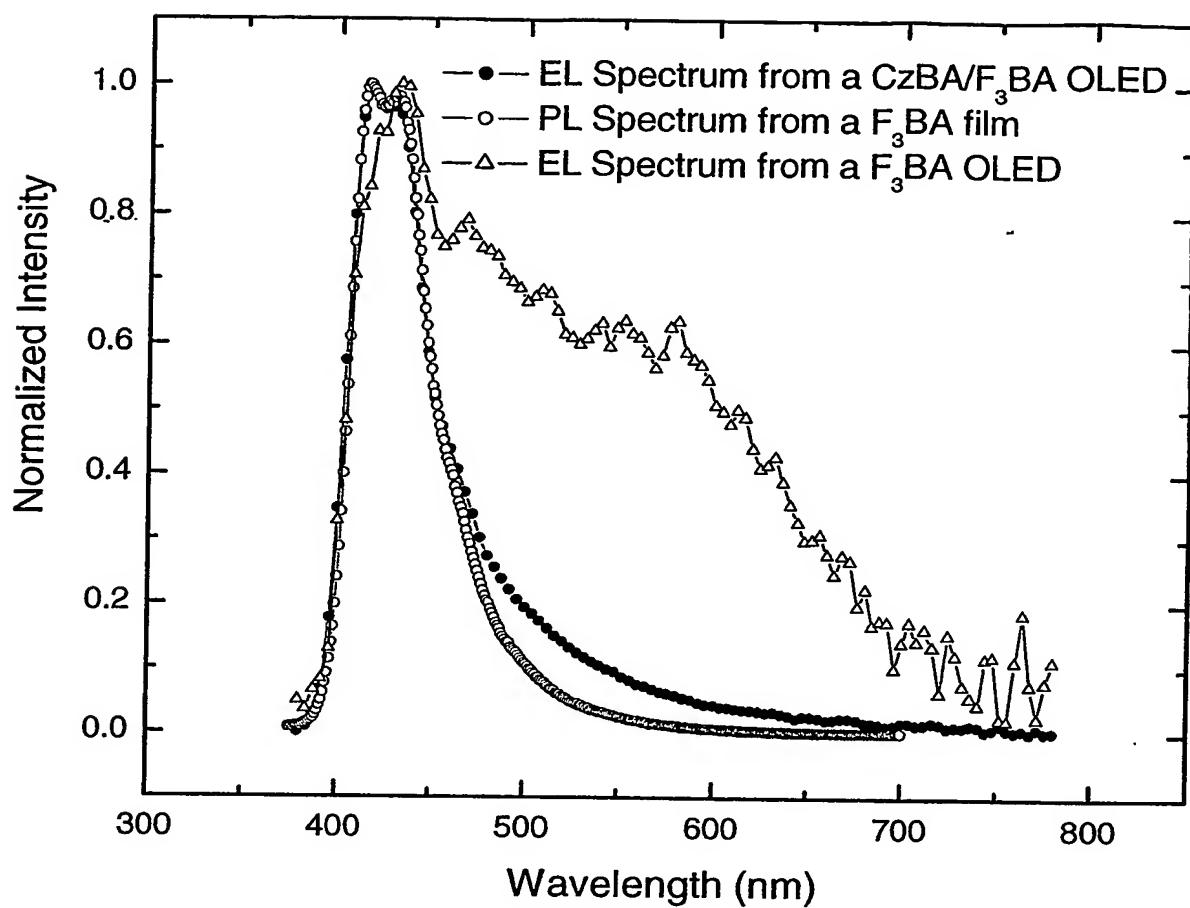


Fig. 22

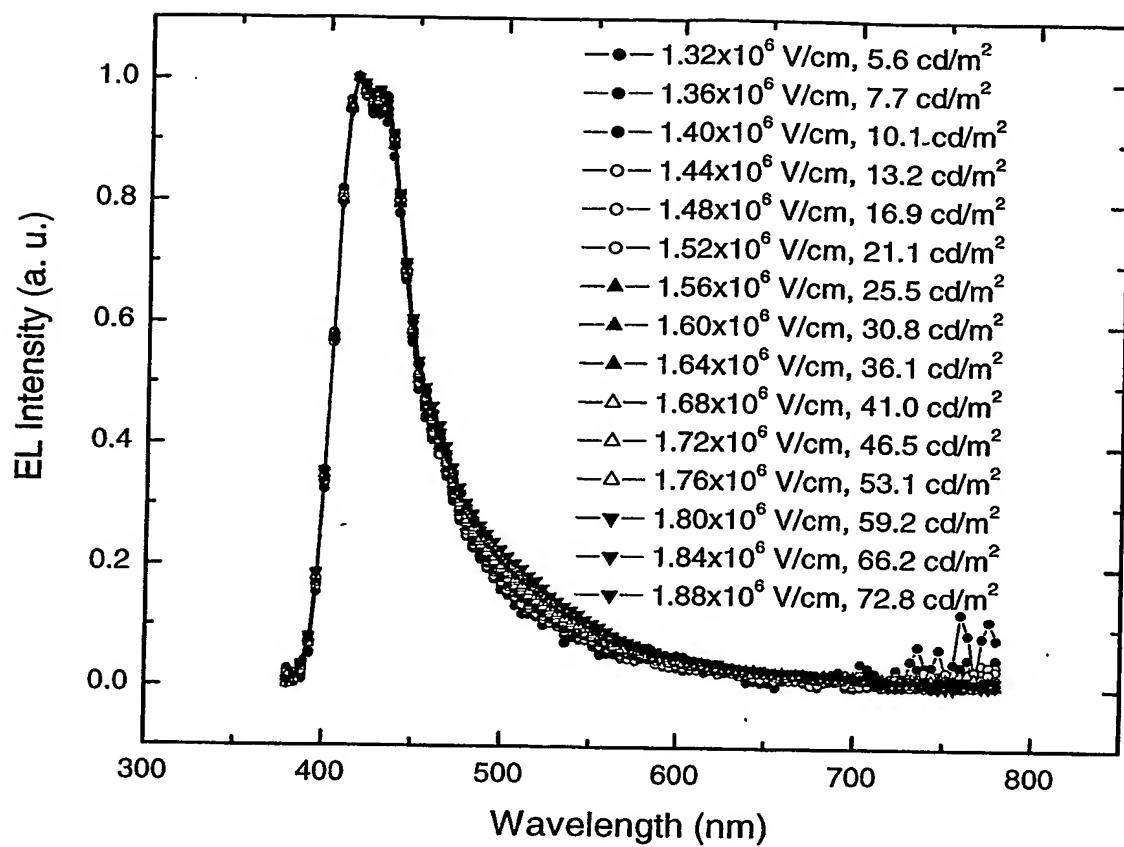


Fig. 23